

IN THE CLAIMS:

Please cancel Claims 28, 29, 31 - 44, 46 - 54, 56, and 57 without prejudice. Please amend Claims 1, 2, 4 - 6, 9, 10, 13 - 17, 20, 21, 24 - 27, 30, 45, and 55, as follows.

1. (Twice Amended / Presently Amended) A method of preheating a metal-containing substrate which includes a metal-containing layer containing a metal selected from the group consisting of platinum, iridium, ruthenium, and combinations thereof, where on an exposed said substrate surface of said substrate to is etched at a temperature of at least 150 °C, wherein said method comprises exposing said exposed substrate surface of said substrate to a preheating plasma generated from a first plasma source gas which is sufficiently includes a slightly reactive with said metal-containing layer gas that is selected so that a compound deposit or residue formed during said preheating which includes metal from said metal-containing layer is more easily etched during a subsequent pattern etching step than said metal-containing layer during a subsequent plasma etching of said metal-containing layer, followed by said subsequent pattern etching step carried out using a second plasma source gas which is different from and more reactive with said metal-containing layer than said first plasma source gas wherein said metal is selected from the group consisting of platinum, iridium, ruthenium, and combinations thereof.
2. (Once Amended / Presently Amended) The method of Claim 1, wherein said metal-containing layer is a platinum-containing layer and a first plasma source gas used to produce said preheating plasma includes nitrogen.
3. (Original) The method of Claim 2, wherein said platinum-containing layer is platinum.
4. (Once Amended / Presently Amended) The method of Claim 2 or Claim 3, wherein said first plasma source gas is at least 50 % by volume nitrogen.

5. (Once Amended / Presently Amended) The method of Claim 4, wherein a said second plasma source gas used during subsequent plasma etching of said platinum-containing layer or said platinum layer is at least 15 % by volume nitrogen.

6. (Once Amended / Presently Amended) The method of Claim 1, wherein said metal-containing layer is a ruthenium-containing layer and a said first plasma source gas used to produce said preheating plasma includes a gas selected from the group consisting of nitrogen, oxygen, and combinations thereof.

7. (Original) The method of Claim 6, wherein said ruthenium-containing layer is ruthenium oxide.

8. (Original) The method of Claim 6, wherein said ruthenium-containing layer is ruthenium.

9. (Once Amended / Presently Amended) The method of Claim 7 or Claim 8, wherein said first plasma source gas is at least 50 % by volume nitrogen.

10. (Once Amended / Presently Amended) The method of Claim 9, wherein said first plasma source gas is nitrogen.

11. (Original) The method of Claim 7 or Claim 8, wherein said first plasma source gas is at least 50 % or more oxygen by volume.

12. (Original) The method of Claim 11, wherein said first plasma source gas is oxygen.

13. (Once Amended / Presently Amended) The method of Claim 9, wherein a said second plasma source gas used during subsequent plasma etching of said ruthenium-containing layer is at about 70 % or more oxygen by volume.

14. (Once Amended / Presently Amended) The method of Claim 10, wherein a said second plasma source gas used during subsequent plasma etching of said ruthenium-containing layer is about 70 % or more oxygen by volume.

15. (Once Amended / Presently Amended) The method of Claim 11, wherein a said second plasma source gas used during subsequent plasma etching of said ruthenium-containing layer is at about 70 % or more oxygen by volume.

16. (Once Amended / Presently Amended) The method of Claim 12, wherein a said second plasma source gas used during subsequent plasma etching of said ruthenium-containing layer is about 70 % or more oxygen by volume.

17. (Once Amended / Presently Amended) The method of Claim 1, wherein said metal-containing layer is an iridium-containing layer and a said first plasma source gas used to produce said preheating plasma includes a gas selected from the group consisting of nitrogen, oxygen, and combinations thereof.

18. (Original) The method of Claim 17, wherein said iridium-containing layer is iridium oxide.

19. (Original) The method of Claim 17, wherein said iridium-containing layer is iridium.

20. (Once Amended / Presently Amended) The method of Claim 18 or Claim 19, wherein said first plasma source gas is at least 50 % by volume nitrogen.

21. (Once Amended / Presently Amended) The method of Claim 20, wherein said first plasma source gas is nitrogen.

22. (Original) The method of Claim 18 or Claim 19, wherein said first plasma source gas is about 50 % or more oxygen by volume.

23. (Original) The method of Claim 22, wherein said first plasma source gas is oxygen.

24. (Once Amended / Presently Amended) The method of Claim 20, wherein a said second plasma source gas used during subsequent plasma etching of said iridium-containing layer is at about 70 % or more oxygen by volume.

25. (Once Amended / Presently Amended) The method of Claim 21, wherein a said second plasma source gas used during subsequent plasma etching of said iridium-containing layer is at about 70 % or more oxygen by volume.

26. (Once Amended / Presently Amended) The method of Claim 22, wherein a said second plasma source gas used during subsequent plasma etching of said iridium-containing layer is at about 70 % or more oxygen by volume.

27. (Once Amended / Presently Amended) The method of Claim 23, wherein a said second plasma source gas used during subsequent plasma etching of said iridium-containing layer is at about 70 % or more oxygen by volume.

28. (Presently Cancelled)

29. (Presently Cancelled)

30. (Once Amended / Presently Amended) The method of Claim 29, 4, wherein said first nitrogen-comprising plasma source gas is nitrogen.

31 - 44. (Presently Cancelled)

45. (Once Amended / Presently Amended) The method of Claim 44, 17, wherein said second source gas includes oxygen.

46 - 54. (Presently Cancelled)

55. (Once Amended / Presently Amended) The method of Claim 50, 1, wherein said second plasma source gas includes an inert, non-reactive gas selected from the group consisting of helium, neon, argon.

56. (Presently Cancelled)

57. (Presently Cancelled)